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CHOATE, HALL & STEWART

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

EXCHANGE PLACE

53 STATE STREET

BOSTON, MASSACHUSETTS 02109-2831

TELEPHONE (617) 248-3000

FACSIMILE (617) 248-4000

TELEX 49815880

[REDACTED]

Ms. Lori Pressman
Massachusetts Institute of Technology
Technology Licensing Office
Cambridge, MA 02139

Re: MIT Case No. 7699

Dear Lori:

I am including a set of proposed claims for the above-identified application. After review of the materials provided to me by Mounji Bawendi, I have proposed method claims for the preparation of highly luminescing nanocrystals. Recent work by a group in Chicago describes a CdSe/ZnS nanomaterial with up to 50% quantum efficiency, similar to the results reported by our inventors. They appear to have been able to accomplish this result under very narrow processing conditions which limit the range of applicability of the process. MIT inventors have recognized that the temperature at which the nanocrystal (quantum dots) are overcoated is important to maintaining monodispersity of the dots and also quality of the overcoat. The claims reflect this recognition. I have also included composition of matter claims which reflect a physical attribute resultant upon this improved monodispersity, e.g., narrow band of photoluminescence and the ability to emit light in a very narrow spectral band.

Also included are sample independent claims for the LED and a biological tag. You will note that the LED may be prepared without the use of a blue LED such as those available from Hewlett Packard and is claimed as such in its broadest scope. However, the inventors feel that the use of blue LEDs is an attractive approach. Lastly, I have only included the broadest claims for the biological application. A consideration of the invention will make it apparent that many different types of claims may be appropriate, such as methods of diagnosis and kits or systems for use in diagnosis. The basic concept is very broad and is not limited to a particular application.


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I also include proposed titles for the various application and the names of the inventors for each. Please do not hesitate to contact me if you should have questions or concerns.

Sincerely,

Mary Rose

Mary Rose Sczzafava, Ph.D.

Enclosures

cc w/enclosures: Prof. M. Bawendi, MIT

Proposed Application Titles and Inventors:

1. "Highly Luminescent, Color-Selective Quantum Dots" by Mounqi Bawendi, Jason Heine and Klaus F. Jensen 7771
2. "Quantum Dot White and Colored Light Emitting Diodes" by Mounqi Bawendi, Jason Heine, Klaus F. Jensen, Jeffrey Miller and Ronald Moon 7699
3. "Luminescent Tags for Use with Biological Substrates" by Mounqi Bawendi 7772